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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,025	09/11/2003	David M. Anderson	10018707-3	6779

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EXAMINER	
TAT, BINH C	

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,025	ANDERSON, DAVID M.	
	Examiner	Art Unit	
	Binh C. Tat	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 28-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-12,14-18,20-22,24 and 28-30* is/are rejected.

7)☒ Claim(s) *7,13,19,23 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This is a response to the response filed on 04/07/05. The applicant argument regarding Shinagawa is not persuasive; therefore, all the rejections based on Shinagawa is retained and repeated for the following reasons.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 9, 15, 20, 21, 24, 28 and 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6766497.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the removal unnecessary steps in an invention is an obvious development in the art (i. e. the patent is narrower than the present application).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 20, 21, 24 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Shinagawa U.S. Patent No. 6,363,368 B2.

The Shinagawa reference teaches a method, apparatus and storage medium to effect an improved optimal solution search wherein genetic algorithms can be executed at a high speed.

Shinagawa teaches the generation of a set of mating combinations such that each combination comprises chromosomes wherein each chromosome comprises at least one gene (figure 1; Columns 2 and 6). Moreover, the reference teaches assigning a fitness value to the mating combination, which is analogous to assigning a composite score to each combination so as to select a particular combination using a value that favors the combination(s) with a favorable composite score (columns 2, 6, 7 and 20).

Column 9 discloses the assigning of a score by computing the product of the scores in assigning a composite score to each mating combination. The reference also illustrates with figures 9 and 11 that the object is to select the best combination thereby precluding a particular combination to be elected more than once (column 15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 5, 6, 8-12, 14, 15-18, 22, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinagawa U.S. Patent No. 6,363,368 B2, as applied above.

As to the limitation of sorting the mating combinations from most favorable to least favorable according to their associated composite scores, the Shinagawa reference discloses discriminating chromosomes to determine whether it is suitable for a particular genetic operation to take place on the basis of its fitness value, or its composite score (column 10). Official notice is taken that such determination involves sorting in the claimed order so as to ensure the highest fitness value (favorable) is obtained and updated accordingly, all of which would allow the genetic algorithm to end at some point (column 12). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this step because it is crucial that the optimal solution be actually realized and executed, and to be done so at high speed.

With regards to selecting a particular combination whose index corresponds to the selection index, this is similar to the probability technique mentioned in column 14 of the

reference, which one of ordinary skill in the art would have understood to be an inherent step in accomplishing the task of determining execution schedules of various genetic operations.

Respecting these claims, the reference shows the operation of recombining chromosomes (crossover) and mutation, which is an operation of varying genes in a chromosome in a fixed probability to produce a new gene (column 7). One of ordinary skill in the art would therefore have understood this to entail duplicating one of the first parent and the second parent to produce a child chromosome, wherein the gene is then subject to mutation.

As to the limitation of each gene representing a characteristic of an instance in an integrated circuit, column 6 of the reference teaches each gene as the components of a data area or a data array, which one of ordinary skill in the art would have associated with common characteristics such as size and voltage.

Allowable Subject Matter

Claims 7, 13, 19, 23, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason is the inclusion of the specific manner in which genes are compared copied and selected.

Remarks

Applicant's response and remarks filed on 04/07/05 have been carefully review. Applicant's arguments have been fully considered but they are not persuasive. Key argument and their response related to the claims are listed as below:

Applicant contends that Shinagawa does not describe "selecting a particular mating combination using a biased random value, the biased random value favoring mating combinations having a favorable composite score, the first and second chromosomes of the particular mating combination comprising first and second parents, respectively" probes as claimed. In response to Applicant's argument that Shinagawa does not describe "selecting a particular mating combination using a biased random value, the biased random value favoring mating combinations having a favorable composite score, the first and second chromosomes of the particular mating combination comprising first and second parents, respectively" probes as claimed, Examiner respectfully disagrees. The prior art (Shinagawa U. S. 6363368) does teach selecting a particular mating combination using a biased random value, the biased random value favoring mating combinations having a favorable composite score, the first and second chromosomes of the particular mating combination comprising first and second parents, respectively (see col 6 lines 43 to col 7 lines 45 and col 14 lines 22 to col 15 lines 56). The claim recites only the extracting regular structural without receting the structrue to definne the diffent the exatracitng strcutural in the reference and the invention. For this reason, examiner holds the rejection proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh C. Tat whose telephone number is (571) 272-1908. The examiner can normally be reached on 7:30 - 4:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Binh Tat
Art Unit 2825
August 5, 2005

MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
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